

1. With respect to "ionic liquid"

The term "ionic liquid" is the general terms (shown in References 1 to 5 as attached).

<Reference 1>

Masahiro Yoshizawa, Wataru Ogiwara, and Hiroyuki Ohno, "Novel Polymer Electrolytes Prepared by Copolymerization of Ionic Liquid Monomers", Polymers for Advanced Technologies, 13, p.589-594 (2002)

<Reference 2>

Masafumi Yoshio, Tomohiro Mukai, Kiyoshi Kanie, Masahiro Yoshizawa, Hiroyuki Ohno, and Takashi Kato, "Liquid-Crystalline Assemblies Containing Ionic Liquids: An Approach to Anisotropic Ionic Materials", Chemistry Letters p.320-321 (2002)

<Reference 3>

Ann E. Visser, W. Matthew Reichert, Richard P. Swatloski, Heather D. Willauer, Jonathan G. Huddleston, and Robin D. Rogers, "Characterization of Hydrophilic and Hydrophobic Ionic Liquids: Alternatives to Volatile Organic Compounds for Liquid-Liquid Separations", ACS Symposium Series (American Chemical Society), p.289-308 (2002)

<Reference 4>

Masayoshi Watanabe, Tomoo Mizumura, "Conductivity study on ionic liquid/polymer complexes", Solid state Ionics, p.353-356 (1996)

<Reference 5>

Timothy I. Morrow and Edward J. Maginn, "Molecular Dynamics Study of the Ionic Liquid 1-*n*-Butyl-3-methylimidazolium Hexafluorophosphate", Journal of Physical Chemistry B, 106, p.12807-12813 (2002)

The term "ionic liquid" refers to a salt which is in the liquid state at room temperature (may be called "ambient temperature molten salt"), and particularly to a salt having a melting point of 70°C or less, preferably 30°C or less. Such an ionic liquid has no vapor pressure (non-volatility), exhibits high thermal resistance and

## BEST AVAILABLE COPY

incombustibility, and is chemically stable (shown in p.6 lines 12-19 of the present specification). Accordingly "ionic liquid" does not refer to a state of matter which dependent upon conditions but refers to specific compounds. Consequently "ionic liquid" does not mean the ionic compounds in the liquid form.

Therefore, we believe that the term "ionic liquid" in claims 1 to 6 is appropriate.

### **2. With respect to Claim Rejections - 35 USC § 102**

Angell(USP5962169) discloses the rubbery materials(column 5 line 22-23 etc.). That is to say, ionic liquid is rubbery itself in Angell (column 3 lines 16-18). On the other hand, the present invention is the rubber with ionic liquid. Therefore, the present invention is different from Angell.

### **3. With respect to Claim Rejections - 35 USC § 103**

Kitano(USP6810225) discloses ionic compounds, but does not disclose the compounds corresponding to the ionic liquid. On the other hand, the present invention uses the "ionic liquid".

Takashima(USP6458883) also does not disclose the compounds corresponding to the ionic liquid.

Angell also does not disclose the compounds corresponding to the ionic liquid.

Michot(USP6841304) disclose molten salts and the molten salts are used in electrolytic solutes(Title), but does not disclose that the molten salts are added to a rubber. Accordingly, the technical field of Michot is different from the technical field of the present invention related to rubber composition and rubber member.

Therefore, the present invention is not obvious from Kitano, Takashima, Michot and Angell.